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COMBINATION ROPE AND CLIP FOR CULLING FISH

FIELD OF THE INVENTION

This invention relates to an apparatus for use in the sport of fishing.

BACKGROUND OF THE INVENTION

In a bass fishing tournament, the limit of a single fisherman is often five fish, the limit for a team is often seven fish, and salt-water limits can be ten fish. It is important for a fisherman, when fishing in a tournament, to have a quick and easy way to cull fish. When the maximum number of fish is caught and put in the live well, and the fisherman has caught another fish, it is time to start culling. Culling is an ongoing process of releasing the smallest fish and replacing it with a larger fish. Many different methods have been developed over the years for identifying which fish is the smallest. Often a hook or a clip with some type marker is attached to the fish. The hook or clip can be attached to the fish through the fish's mouth or to one of the fish's fins. Some of these hooks or clips can injure the fish by puncturing holes in fish. Some of these hooks and lips have a length of cord attached that can become entangled with other hooks, clips or cords. These cords often sink to the bottom of the live well unless tied to the wall of the live well.

BRIEF SUMMARY OF THE INVENTION

The present invention is intended to overcome these disadvantages. Accordingly,

it is an object of the present invention to provide a fish friendly clip for holding a fish without puncturing the fish.

It is a further object of the present invention to provide a clip coupled to a length of floating rope to allow the user to easily retrieve a fish from a live well without having to reach below the surface of the water.

It is a further object of the present invention to provide a clip coupled to a length of rope such that the force exerted by the rope on the clip tends to increase the gripping force of the clip.

The above and other objects, feature, and advantages of the present invention will be apparent in the following detailed description thereof when read in conjunction with the appended drawings wherein the same reference numerals denote the same or similar parts throughout the several views.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a front view of a prior art molded clip;

Figure 2 is an isometric view of the plastic clip of Figure 1 secured to a plastic garment hanger;

Figure 3 is an isometric view of a combination clip and rope consistent with the present invention;

Figure 4 is a front view of the combination clip and rope of Figure 3 used by a fisherman to hold a fish; and

Figure 5 is a second embodiment clip consistent with the present invention.

DETAILED DESRIPTION OF THE DRAWINGS

Figure 1 shows a one piece molded clip 100 according to the prior art. The clip is molded of an acetal resin, preferably DuPont DELRIN. The clip has a first rigid member 102 spaced from a second rigid member 104. A spacer 114 joins the rigid members. Member 102 has an upper portion 106 that extends upward from the spacer 114 and a lower portion 110 that extends downward from the spacer 114. Likewise, member 104 has an upper portion 108 that extends upward from the spacer 114 and a lower portion 112 that extends downward from the spacer 114. The upper portions 106 and 108 are shown having a plurality of grooves to assist in gripping the clip. At the distal end of each of the lower portions 110 and 112 furthest from the spacer 114 is a protrusion 136 and 138. The protrusions 136 and 138 extend towards each other and are angled upward towards the spacer 114. At the end of the protrusions 136 and 138 are gripping portions 126 and 128 respectively. The gripping portions 126 and 128 are shown having a plurality of grooves to assist in the gripping of items. The spacer 114 joins the rigid member 102 and 104, spaces them, and operates as a fulcrum. The clip is designed such that in the absence of any forces applied to the upper portions 106 and 108, the gripping portions 126 and 128 are in close proximity. A force F applied to the upper portions 106 and 108 of rigid members 102 and 104 urges the griping portions 126 and 128 to separate. A biasing member 116 opposes the force F. An item 134 inserted between the gripping portions 126 and 128 when they are spaced will be secured when the force is removed. The biasing member 116 extending from the upper portion 108 of rigid

member 104 increases the amount of force available at the gripping portions 126 and 128. An end 118 of the biasing member 116 travels against the inside wall of upper portion 106. The end 118 is capable of travel between a ledge 120 and spacer 114. A first opening 122 is formed by the biasing member 116, upper portions 106 and 108, and the spacer 114. The lower portions 110 and 112, the protrusions 126 and 128 and the spacer 114 form a second opening 124. Extending from the spacer 114 into the second opening 124 is a pair of protrusions 130A and 130B. The protrusions 130A and 130B form a flexible opening 132.

As shown in Figure 2, the clip 100 can be secured to a garment hanger 150. A pair of clips can be used to secure a variety of items, such as a pair of pants, to the hanger 150. The flexible opening 132 is used to connect the clip 100 to the hanger 150. The flexible opening 132 is sized to fit hangers with a diameter between 1/4" and 3/32". The one-piece molded design of the clip has no metal parts to rust or stain secured items.

Figure 3 shows an assembly 200 comprised of a clip 100' and a length of rope 204. The clip 100' may be the same as clip 100 shown in Figure 1 but does not have to be identical. The rope 204 is preferably a 10" to 24" length of braided hollow polypropylene rope. Braided hollow polypropylene is preferred because it has a positive buoyancy, i.e. floats in water. Ropes of other material can alternatively be used. The rope 204 has a first end 206 and a second end 208. The first end 206 is preferably melted to prevent fraying. The second end 208 is preferably threaded through an opening 122' in the clip 100' and then turned in and threaded back inside the rope 204. Alternatively, the first end 206 can be formed into a loop large enough to fit over a fisherman's hand by

threading the end 206 back in side the rope 204. This threading can be done with the help of a fid, not shown. U.S. Patent 6,044,582 discloses a method for forming a loop in a length of braided rope. The '582 patent is herein incorporated by reference in its entirety.

Figure 4 shows a fish 300 secured to the assembly 200. A fisherman securely holding the rope 204 in his hand 304 holds the assembly 200 vertically. A pair of upwardly extending protrusions 136' and 138' of the clip 100' securely holds the fish 300 by gripping the fish's lip or jaw 302. The weight of the fish 300 is resisted by the fisherman exerting an equal and opposite force on the rope 204. The force caused by the fisherman pulling on the rope 204 urges a biasing member 116' upward. The upward movement of the biasing member 116' urges the upper portions 106' and 108' to move away from each other which causes the protrusions 136' and 138" to move towards each other. The rigid members 102' and 104'are capable of rotating about the spacer 114'. Thus, the heavier the fish, the greater the gripping force applied to the fish lip or jaw by the protrusions 136' and 138'. The upward angled protrusions 136' and 138' form a reverse taper that can positively clamp the fish's lip. The fish can be positioned relative to the clip 100' such that the gripping portions 126' and 128'grab the fish just below the fat portion of the fish's lip. The ledge 120 prevents the biasing member 116' from coming loose when an upward force is applied to the rope 204. A protrusion 130' can be used as a lip stop to prevent the fish from being inserted too far into the clip 100'.

After a fisherman catches a fish he wants to keep, he simply squeezes the upper portions 106' and 108' of the clip 100' with his fingers, inserts the fish's mouth in the

opening 124', and then releases the upper portions 106' and 108'. The fisherman can then put the fish 300 and the assembly 200 into the live well. The fish is free to swim around the live well. The end 206 of the rope 204 floats on the top of the water. When the fisherman wants to remove a fish from the live well, all he has to do is grab the end of the rope floating on top of the water in the live well.

The combination clip and rope can be sold in kits of five or more. Preferably, each of the ropes is a different color. The different colors allow the fisherman to quickly and easily find the smallest fish by grabbing the appropriate colored rope. The fisherman may use a list to keep track of the weight and the corresponding color of rope. Alternatively, the first end 204 can include an indicator upon which the fish weight can be written.

Figure 5 shows a second embodiment of a clip 100". The clip 100" shows an alternative biasing member 116" and lip stop 130". The biasing member 116" is coupled to the ends of upper portions 106" and 108". Coupled to the biasing member 116" is a pair of protrusions 150A" and 150B". The protrusions 150A" and 150B" form an opening 150". The opening 150" provides a convenient coupling location for a rope. When a force is exerted upward on the coupled rope, the force urges the upper portion 106" and 108" away from each other which urges protrusions 136" and 138" closer together. This increases the gripping force of the protrusion 136" and 138". The alternative lip stop 130" is shown as a "T".

It should be understood that, while the present invention has been described in detail herein, the invention can be embodied otherwise without departing from the

principles thereof, and such other embodiments are meant to come within the scope of the present invention as defined in the following claim(s)